



Munich Personal RePEc Archive

Social capital, growth and poverty: a survey of cross-country evidence

Stephen Knack

World Bank

2002

Online at <http://mpra.ub.uni-muenchen.de/24893/>

MPRA Paper No. 24893, posted 11. September 2010 10:06 UTC

The Role of Social Capital in Development: An Empirical Assessment, edited by Christiaan Grootaert and Thierry van Bastelaer, Cambridge, UK: Cambridge University Press, 2002.

Chapter 11

Social Capital, Growth, and Poverty: A Survey of Cross-Country Evidence

Stephen Knack

This chapter surveys the major contributions to the rapidly growing empirical literature on social capital and economic performance, focusing primarily on cross-country approaches. It first addresses characteristics of governments that fall under broad definitions of the term *social capital*. It then reviews studies of “civil,” or nongovernmental, social capital.

Most of this literature explores the determinants of growth in per capita income, devoting no attention to distributional effects. This chapter is a preliminary attempt to fill that gap by providing new cross-country evidence on the effects of social capital on poverty and the distribution of income.

This chapter is limited primarily to cross-country studies of social capital and economic performance. It does not attempt to comprehensively review regional-, village-, or individual-level analysis or the expanding literature on social capital’s impact on noneconomic outcomes, such as health, education, or crime. Nor does it examine the rapidly growing body of work that explores the determinants of social capital.

Defining Social Capital

The breadth of the term *social capital* varies from one researcher to another. In keeping with the scope of the World Bank’s Social Capital Initiative, the term is defined broadly here to include features of both government and civil society that facilitate collective action for the mutual benefit of a group, where a group may be as small as a household or as large as a country.

Collier (1998a) distinguishes between government social capital and civil social capital. Adopting his terminology (if not his precise definitions), I use government social capital to refer to government institutions that influence people’s ability to cooperate for mutual benefit. The most commonly analyzed of these institutions in the literature reviewed here include the enforceability of contracts, the rule of law, and the extent of civil liberties permitted by the state. Civil social capital encompasses common values,

norms, informal networks, and associational memberships that affect the ability of individuals to work together to achieve common goals.

What unifies the two concepts is that both types of social capital help solve the problem of social order by overcoming collective action problems. Social norms and generalized trust are analogous to legally enforced property and contract rights: they reduce uncertainty and transactions costs, enhancing the efficiency of exchange, encouraging specialization, and promoting investment in ideas, human capital, and physical capital.

A theme repeatedly emerging from cross-country empirical studies is that development is largely a function of incentives faced by wealth-maximizing individuals. In some countries, the structure of incentives steers people primarily toward producing new wealth; in other countries it is easier to obtain wealth by diverting it from others. Social capital determines the relative payoffs associated with production (“making”) and predation (“taking”). Where social and legal mechanisms for the efficient resolution of prisoners’ dilemma and principal-agent games are weak or absent, the private returns to predation increase while the private returns to production fall.

Cooperation at What Level, or Which Groups Benefit?

In studying the relation between social capital and economic well-being, the choice of units of analysis is crucial. Fundamentally, the social capital question concerns the benefits and costs of cooperation. Within-group collective action often imposes costs on nonmembers. Thus scholars have gradually recognized the potential importance of negative as well as positive effects of social capital. Cooperation within a group will often have multiple effects. Welfare within the group generally will be enhanced, in the sense that the collective gains net of costs to group members is positive—this is the standard hypothesis concerning social capital’s impact. However, the welfare of nonmembers may also be affected—and not always for the better.

When the goal of one group is to reduce the well-being of members of some other group, we can hypothesize that successful collective action in the first group will entail welfare losses for members of the second group (gains by the Nazi Party in Germany in the 1930s, for example, came at the expense of European Jews). More often, a group may not directly value a reduction in the welfare of nonmembers, but it may nonetheless be willing to impose costs on nonmembers in pursuit of its own goals. Sugar producers in the United States, for example, are not interested in reducing the welfare of sugar consumers, but they are willing to lobby for import quotas that increase their profits at consumers’ expense. The implication is that in general we can predict only that cooperation by members of a group will improve the welfare of a group’s own members; the effect on other groups or on the village, ethnic group, or country as a whole is ambiguous. If, for example, the members of each household in a village cooperate in the interests of the household, the village as a whole may be worse off than a neighboring village in which individuals are less willing or able to impose costs on people outside the household.

To see how cooperation can reduce aggregate social welfare, suppose that social ties within a village raise the rate of return to a public project, making all village residents better off. If these same social ties are responsible for the village's success in lobbying for outside funds to finance the project, a second village with weaker social ties that loses out in the competition for funds is made worse off. If the funds would have been more productively spent in the second village (because it was poorer, for example), the first village's high level of social capital can actually reduce social welfare at the aggregate level.

Strong ethnic ties can improve the welfare of members of an ethnic group, but they often do so at the expense of other groups.¹ Depending on how encompassing a group is, the costs it is *willing* to impose on nonmembers in the pursuit of its members' interests may be a large multiple of the group's gains from collective action (Olson 1982). A group's *ability* to impose costs on nonmembers is likely to vary with a society's governance structures. Where the populace has secure civil liberties, and property rights and the rule of law are strong, fewer social resources are up for political grabs and groups have less opportunity to benefit from zero-sum or negative-sum competition against other groups (Rodrik 1999; Lane and Tornell 1996).

Identifying Olson (1982) and Putnam (1993) – with some exaggeration -- as either end of a continuum of views about the effects of groups, the Olson perspective suggests that social capital within one group generally has negative effects on other groups and on the country as a whole. The Putnam perspective holds that social capital by one group has positive effects on all groups, because cooperation among members of a group creates habits and attitudes toward serving the greater good that carry over to members' interactions with nonmembers. Which effect dominates is an empirical question that is likely to depend on both cultural and institutional factors (religions, for example, may differ in their emphasis on the desirability of behaving altruistically toward strangers.)

Narayan and Pritchett (1999), Grootaert (1999), and others have begun testing hypotheses about the effect of household- and village-level social capital. Varshney (1998) and others are investigating the impact of interethnic and intraethnic ties on the frequency and intensity of ethnic conflict. This chapter reviews evidence from studies in which country-level indicators of well-being are the dependent variables. Most of this evidence bears specifically on the hypothesis that an increase in cooperation within a country as a whole improves national well-being. Most of the evidence provides strong support for the hypothesis that social capital as measured at the national level is associated with improved economic welfare of societies, as measured by growth, investment, and poverty indicators.

¹Intraethnic collective action against another ethnic group (such as the violence by the Bosnian Serbs against the Bosnian Muslims) generally strengthens ties within the victimized group, making the net impact of collective action on the welfare of members of the first group ambiguous.

Social Capital, Investment, and Growth: A Survey of the Empirical Literature

Indicators of governmental social capital are almost always measured at the national level. Values for the rule of law, for example, are assigned to countries, not to constituent parts of countries, such as provinces, villages, or households. In part, this is a question of data availability; one could conceivably attempt to measure differences in local laws or differences in the ways in which local governments enforce national laws regarding, say, the enforceability of contracts. However, within-country variation in government social capital is likely to be very small relative to cross-country variation, particularly since governments are highly centralized in most of the world.²

Measuring civil social capital is more problematic. While the judicial system in most countries is likely to enforce contracts more or less equally well across all regions, cooperative norms, interpersonal trust, and the social ties that generate them are more likely to vary by locality. Because they will vary more than government social capital, they are more likely to play a role in explaining regional differences in economic performance within countries. Measuring regional differences within countries—through surveys or other means—is costly, however, and is not likely to be undertaken in a comparable fashion for a large sample of countries any time soon.

Cooperative norms, trust, and social ties are usually measured by conducting representative surveys of individuals. Important issues arise in aggregating survey-based measures to assign values to countries. A country populated by individuals with strong intrafamily or intraethnic trust or ties, for example, is not what Fukuyama (1995) and others mean by a “high-trust society.”

Conceptually, the type of trust that should be unambiguously beneficial to a country’s economic performance is trust between strangers—or more precisely, between two randomly matched residents of a country. Particularly in large and mobile societies, where personal knowledge and reputation effects are limited, a sizable proportion of potentially mutually beneficial transactions will involve parties with no prior personal ties. In societies in which strangers can trust one another to act in the collective interest, not only can people leave their bicycles unattended and unlocked on the street, they can contract with a wide range of parties without drafting lengthy written agreements and run businesses without devoting a lot of time to monitoring employees, partners, and suppliers. They may also be more likely than members of low-trust societies to support efficient economic policies, whether or not they increase one’s personal income.

It is something like trust in strangers—or the propensity to cooperate in large-numbers prisoners’ dilemma settings (whether such trust is created by social or government mechanisms or some combination of the two)—that we must measure to test the hypothesis that social capital at the national level is associated with improved national

²Of course, legal systems often protect the rights of some citizens more effectively than others, based on gender or ethnicity, for example.

economic welfare. Within-family trust, intraethnic trust, or other forms of particularized or specific trust may be corrosive to generalized trust (trust in strangers). Strong intraethnic trust in an ethnically heterogeneous society may restrict the scope for transacting and lead to segmented markets, reducing gains from specialization and perhaps from economies of scale (Greif 1994). Because of the importance of these and other measurement issues, the question of measurement is a recurring theme in the empirical literature on social capital and economic performance.

Government Social Capital

Researchers measure government social capital in a variety of ways. Some look at civil liberties and political freedom. Others measure the frequency of political violence or study subjective ratings of political risk. This section examines these and other ways of measuring government social capital.

Civil Liberties and Political Freedoms

Kormendi and Meguire (1985) appear to have been the first to explore the relation between government social capital and economic performance using a cross-country statistical approach. Their study is based on *International Financial Statistics* data on the average annual growth in per capita income and the investment to GDP ratio for a sample of 47 countries between 1950 and 1977. In regressions with growth and investment as the dependent variables, they test hypotheses on income convergence, population growth, government size, trade openness, and inflation and examine the relation between economic performance and “civil liberties.” “Civil liberties” is an index constructed by Raymond Gastil (1990) for Freedom House (see annex). Values range from 1 to 7, with lower scores indicating greater civil liberties. Gastil’s criteria are primarily political and social rather than economic. Kormendi and Meguire were interested in also testing the impact of “economic rights, such as freedom from expropriation or the enforceability of property rights and private contracts” (p. 154). They acknowledge that the civil liberties index was not intended to measure economic rights but argue that the two are likely correlated.

Kormendi and Meguire dichotomize the Gastil index, classifying countries with scores of 1 and 2 as high civil liberty countries. This dummy variable has a positive and marginally significant impact in their growth regression. Growth rates in the high civil liberties countries average about 1 percentage point higher than in other countries, controlling for income convergence, population growth, government size, trade openness, and inflation. They find evidence that the association between civil liberties and growth is attributable almost entirely to the effect of civil liberties on investment rates: when the investment to GDP ratio is added to the growth regression, civil liberties no longer has any independent effect. In a regression with the investment to GDP ratio as the dependent variable, civil liberties is by far the most powerful explanatory factor. High civil liberties is associated with a 5 percentage point increase in investment's share of GDP (which averages about 20 percent).

The Kormendi and Meguire study is limited to 47 countries for which data were available beginning in 1950. Grier and Tullock (1989) explore the relation between a similar set of independent variables and growth with a much larger sample (113 countries). Each observation in their analysis covers a five-year period, so that six observations are available for a country for which data are available from 1950 to 1980 and four observations are available for countries for which data are available only since 1960..

Using an *F*-test, Grier and Tullock reject the null hypothesis that it is appropriate to pool observations from different continents and run separate regressions for OECD, Latin American, African, and Asian countries. They construct a dichotomous variable from Gastil's civil liberties indicator in which countries in the two most repressive categories are distinguished from all others, creating what they call "a proxy for the political infrastructure." They find that political repression is associated with a significant reduction in annual growth rates of about 1.5 percentage points in Latin America and Africa but that repression has no effect in Asia (no OECD country was classified as repressive).

The research design employed by Grier and Tullock treats every observation within each continent grouping as independent. It includes no country dummies or tests or corrections for autocorrelation.³ Other studies using pooled time-series cross-country data routinely find regression residuals to be strongly correlated within countries. It is doubtful that civil liberties would remain statistically significant using a more appropriate research design, particularly for the Latin America sample (where the *t*-statistic for civil liberties is only 1.88).

Scully (1988) uses the civil liberties indicator and other indicators provided by Gastil as measures of the "institutional framework." He views Gastil's criterion of the "independence of the judiciary" as a proxy for the rule of law. A separate Gastil indicator assigns countries to one of five categories based on their level of "economic freedom," which Scully takes as a proxy for the security of private property rights. A third Gastil variable rates political freedoms on a seven-point scale.

Scully constructs a series of dummy variables from these three measures and tests their effects on income growth over the 1960–80 period for a sample of 115 countries, controlling for changes in the capital-labor ratio. He finds that income growth in countries with greater civil liberties (or political or economic freedom) is about twice that in countries with less freedom. Because civil, political, and economic freedoms are highly correlated, including all three sets of measures in one regression increases these growth differences only slightly: countries that rate high on all three indicators enjoy growth rates three times that of countries that receive low ratings on all three dimensions (2.73 percent versus 0.91 percent annual growth).

³Because all observations for a country are assigned the same value (from the late 1970s) for the civil liberties index, including country dummies would make it impossible to estimate the impact of civil liberties.

Causality is a serious and largely neglected problem in all of these studies. Bilson (1982) shows that civil liberties are strongly associated with per capita income (and positively but not significantly related to recent income growth), but his interpretation is that economic performance determines freedoms rather than the other way around. The Gastil ratings were constructed beginning in 1973. Scully uses the average values for the 1973–80 period in his study of 1960–80 growth. Kormendi and Meguire (1985) analyze growth over the 1950–77, Grier and Tullock (1989) over the 1950–80 period, each apparently using Gastil’s ratings for 1978 or 1979. A potentially serious limitation of this work is that the effect precedes the cause: the key independent variables of the three studies represent conditions prevailing in the late 1970s, while the dependent variables measure economic performance over extended periods ending in 1980 or before. Using Gastil indexes averaged over the years 1974–89 in tests measuring investment and growth over that same period, Knack and Keefer (1995) obtain much weaker effects for civil and political freedoms.

Because of the large number and wide variety of criteria used in Gastil’s civil liberties index, it is a questionable proxy for narrower concepts, such as the rule of law, contract enforceability, or security of property rights. While certain criteria incorporated in the index are highly relevant (rights to property, independence of the judiciary, freedom from government corruption), others (the presence of free religious institutions, free trade unions, and freedom from “gross socioeconomic inequality” and “gross government indifference”) are not.

Studies conducted in the 1990s on the relation between type of regime and growth interpret Gastil’s political freedoms and civil liberties indexes as measures of democracy. Barro (1996) and Helliwell (1994) find that the Gastil indexes are positively related to growth only if variables such as educational attainment and investment rates are omitted as explanatory variables. They conclude that any beneficial effect of democracy on growth may operate through these factor accumulation channels. Barro finds that a curvilinear relation between growth and the Gastil index fits the data better than a linear specification, with the fastest rates of growth exhibited by countries that are only partly free.⁴ Barro, Helliwell, and Burkhart and Lewis-Beck (1994) all conclude that the positive relation between income levels and democracy is largely attributable to the effect of income on democracy rather than vice versa. These results are consistent with Lipset’s (1959) interpretation of the correlation between income and democracy. (See Przeworski and Limongi 1993 for a critical review of the extensive and inconclusive literature on the relation between regime type and economic performance.)

Isham, Kaufman, and Pritchett (1997) analyze the impact of the “quality of governance” on the performance of hundreds of projects financed by the World Bank in developing countries between 1974 and 1993. They find that rates of return are higher in

⁴Studies of the determinants of deaths from political violence found a similar curvilinear relation, with deaths highest among countries with intermediate Gastil indexes. See, for example, Muller and Weede (1990).

countries with greater civil liberties, as measured by the Gastil index and other indicators of civil liberties. Controlling for national policy variables, capital-labor ratios, project complexity, and regional dummies, each one-point improvement in the seven-point Gastil scale is associated with improvement of more than 1 percentage point in the rate of return (which averaged about 16 percent over all projects). Gastil's political freedoms index and other indicators of democracy are unrelated to project performance. Civil unrest (frequencies of riots, strikes, and protest demonstrations) is positively associated with performance—in the authors' view because civil unrest is indicative of environments in which mechanisms for expression of discontent with government performance are available and effective. The authors interpret their findings as evidence for the view that increasing public voice and accountability improves government performance.⁵

Frequency of Political Violence

Barro's (1991) classic empirical study on the determinants of growth tests indicators of political instability, which he interprets as adverse influences on property rights. These instability variables have important advantages over the Gastil indexes as proxies for property rights and other dimensions of the quality of governance. First, they are objective measures, consisting of the number of incidents of various types of political violence. Second, they are constructed for the entire period covered by the Summers-Heston (1991) income data set, not just for recent years, allowing for a fuller empirical treatment of causality issues.

The two violence measures Barro tests are the average annual number of revolutions (or coups) and of political assassinations, using data from Banks (1993). He finds that each of these variables is significantly and negatively related to growth rates and to private investment's share of GDP between 1960 and 1985.⁶ Barro reports that once these variables are included, Gastil's indexes (which he tested in earlier unpublished drafts) are no longer significant.

Endogeneity is a potentially serious problem with violence indicators: Barro acknowledges that the relation between violence and growth might reflect the positive effect of growth on political stability rather than the other way around. Investigations of this issue using time-series data provide mixed results. Alesina, Ozler, Roubini, and Easterly (1996) show that political instability and violence are jointly determined: coups lead to worse economic performance, but slow growth increases the likelihood of coups. Londregan and Poole (1990, 1992) also conclude that coups are caused by low growth, but they find that more frequent coups do not reduce growth rates. Using income inequality as an instrument for political instability and the price of investment goods as an instrument for investment, Alesina and Perotti (1996) find that instability lowers

⁵By this interpretation of the Gastil civil liberties indicator, it could represent civil rather than government social capital.

⁶Indexes of political instability constructed from several violence indicators have been linked to growth (Gupta 1990) and to investment (Alesina and Perotti 1996).

investment's share of GDP but that investment rates do not significantly affect political violence.

As with the Gastil measures, it is questionable how well the frequency of political violence captures variations in the underlying country characteristics of interest, such as the security of property rights and the rule of law. Coups, for example, often entail only changes in the identity of the kleptocratic chief executive, with few or no implications for the property rights of anyone outside the ruler's and ex-ruler's circles of key supporters. Conversely, some stable (long-lasting) governments have been known to legislate economic policies erratically through numerous and unpredictable executive decrees.

Subjective Ratings of Political Risk

The deficiencies of violence counts and the Gastil indexes, coupled with the increasing prominence of new institutional explanations for underdevelopment (North 1990), created a demand for more direct measures of the quality of governance. In independent but simultaneous research, Mauro (1995) and Knack and Keefer (1995) turned to subjective ratings marketed to international investors by firms specializing in political risk evaluation. These ratings services include the International Country Risk Guide (ICRG), Business Environmental Risk Intelligence (BERI), and Business International (BI). (For a description of these services, see annex.)

The ICRG rates the institutional environments of countries on many dimensions. Knack and Keefer (1995) construct an index from the five dimensions they view as being of greatest relevance to the security of private property and the enforceability of contracts: corruption in government, the rule of law, risk of expropriation, repudiation of contracts by government, and quality of the bureaucracy. They construct a similar index from the following BERI variables: contract enforceability, nationalization risk, bureaucratic delays, and infrastructure quality.

Adding the ICRG index to a Barro-type growth regression, Knack and Keefer find that a one standard deviation increase in the index (about 12 points on a 50-point scale) increases average growth by 1.2 percentage points. Substituting the BERI index for the ICRG index produces a similar association with growth. These indexes (particularly the BERI index) prove to have strong explanatory power for private investment as well. Moreover, in growth or investment regressions that include the violence counts or Gastil indexes as well as the Knack and Keefer property rights indexes, only the Knack and Keefer indexes prove statistically significant. Because of its much better cross-country coverage relative to the BERI or BI indicators, the ICRG indicators have become widely used in the cross-country empirical literature on economic performance.

In related work, Knack (1996) and Keefer and Knack (1997) show that the rate at which poor countries converge to the richest countries' income levels varies with the quality of governance, as proxied by the ICRG and BERI indexes. Keefer and Knack test interactions between initial per capita income and institutional quality. They find that the ability of poor countries to take advantage of the rapid growth opportunities afforded by relative backwardness is a function of property rights and contract enforcement. That is,

as predicted by convergence theories, the coefficient on initial income is negative and significant only when the values of ICRG and BERI are sufficiently high.

Mauro (1995) tests three variables constructed from BI indicators: corruption; a bureaucratic efficiency index constructed from corruption, bureaucracy and red tape, and the quality of the legal system and judiciary; and a political stability index constructed from six indicators representing the likelihood of changes in government, terrorist acts, labor unrest, other domestic conflict, or conflict with neighboring countries. These indexes are positively and significantly related to growth and investment in Barro-type regressions. Although the indexes are strongly correlated with one another, the political stability and bureaucratic efficiency indexes are each marginally significant when both are entered in the same regression. When investment is included in the growth regression, the BI coefficients decline somewhat, suggesting that part but not all of the growth effects of political stability and bureaucratic efficiency are attributable to efficiency and innovation channels. This pattern also emerges when the ICRG index is used. Using the BERI index, the institutional environment appears to influence growth primarily through investment rates.

Mauro's BI indicators are averages for the 1980–83 period, while investment and growth are measured over the 1960–85 period, raising the issue of causality. Economic success may improve bureaucratic efficiency and political stability. Moreover, possible biases in coding that are correlated with economic performance are more problematic with these indicators than with the Gastil indexes or political violence counts. An expert might surmise, for example, that corruption must not be too severe in a particular country because it attracts foreign investment or is growing rapidly.

Mauro deals with the reverse causation issue by using an index of ethnic fractionalization and a set of colonial heritage dummies as exogenous instruments for the BI indicators. For the most part, his two-stage least-squares estimates of the association between the BI indicators and economic performance are positive and significant. Although he reports that overidentification tests confirm the validity of the instruments, the use of ethnic fractionalization is questionable because of evidence that it influences growth independently of its effects on bureaucratic efficiency and political stability. Using a variety of ethnicity indicators, Easterly and Levine (1997) show that ethnic heterogeneity is associated with a broad range of inefficient economic policy choices. In the ICRG sample (which is larger than the BI sample), ethnic fractionalization remains significantly related to growth even after controlling for institutional quality (Zak and Knack 2001).

Knack and Keefer (1995) also acknowledge the potential for reverse causality from economic performance to (real or perceived) institutional quality. Their response is to measure institutions as far back in time as possible and to measure their dependent variables farther forward in time. They focus primarily on growth and investment rates over the 1974–89 period (using data from Levine and Renelt 1992), using the first available observation for each country for their institutional indicators (1982 for ICRG and 1972 for BERI for most countries).

Chong and Calderon (2000) employ a more rigorous approach to causality, using BERI data (the longer time series for BERI makes it preferable to BI or ICRG data for conducting causality tests exploiting time-series variation in the data). They obtain strong evidence for two-way causality: growth increases the BERI measures and higher BERI values increase growth rates.

A potentially important drawback of the political risk indicators used by Mauro and Knack and Keefer is that these measures likely better represent conditions facing foreign investors (the paying clients of risk assessment firms) than conditions confronting domestic investors. Given the crucial importance of foreign technology and capital for successful catch-up growth in poor countries, conditions facing would-be foreign investors are by no means irrelevant. Unless those conditions are perfectly correlated across countries with conditions facing domestic investors, however, subjective political risk evaluations represent only partial indicators.

Surveys of Entrepreneurs

A very different approach to measuring property rights, contract enforceability, and bureaucratic integrity and efficiency is to survey foreign and domestic entrepreneurs operating in developing countries. This approach has been implemented most impressively by Borner, Brunetti, and Weder (1995) and in the private sector survey conducted for the 1997 World Development Report (see World Bank 1997 and Brunetti, Kisunko and Weder 1997).

Brunetti, Kisunko, and Weder (1997) construct a country-level credibility of rules index from the survey data, designed to characterize “unclear property rights, constant policy surprises and policy reversals, uncertain contract enforcement, and high corruption.” The index is based on country means of survey responses to 10 items measuring expectations of the frequency of government changes and policy surprises, protection from criminal actions, unpredictability of the judiciary, and the frequency of “irregular additional payments” necessary to operate a business. Each item has six possible responses. The authors treat the responses as interval-scale variables and compute averages for each question by country. They then average over all 10 items, creating an index ranging from a best possible value of 1 to a worst possible value of 6.

For their 41-country sample, Brunetti, Kisunko, and Weder find their credibility of rules index to be significantly related to growth and investment during 1983–94, after controlling for initial income and educational attainment. Although they did not report the quantitative impact of their index, their regression coefficients imply extremely large effects: each one level improvement in the 1–6 credibility scale is associated with a 3.7 percentage point increase in investment's share of GDP and a 1.5 percentage point increase in annual average income growth.

Because original surveys can be guided by theory, they produce even more direct and relevant measures of the quality of governance than those provided by political risk evaluators such as the ICRG, BERI, and BI ratings. The questions can also be asked of

both domestic and foreign investors. These survey indicators have several major limitations, however. First, the studies have been conducted only in a relatively small number of countries—far smaller than the number covered by ICRG, for example. Second, studies employing these data have not subjected them to adequate reliability testing. Confidence in the accuracy of country estimates produced by the data would be increased if the researchers were able to report that the average variance of responses within countries for any given survey item was small relative to the variance across countries. Third, the data are measured end-of-period, as the surveys used in Brunetti, Kisunko and Weder (1997) were conducted in 1996. Questions about whether conditions were better, worse, or the same 10 years ago are included in the questionnaire, but for many obvious reasons such recall measures are a very crude means of tackling causality issues.

Finally, these surveys may not measure current conditions more accurately than political risk indicators such as ICRG. The sample is drawn from a censored population, which may have a more optimistic view of the investor climate than the true population of interest (namely, all potential investors). The entrepreneurs surveyed in each country include only those who chose to invest; would-be investors scared away by poor governance or other factors are not represented in the sample. The degree of censoring will increase with poor governance, as a larger proportion of potential investors will decline to invest. Cross-country variation would also be reduced if only the most dissatisfied entrepreneurs were sufficiently motivated to respond to the survey (which had a response rate of about 30 percent). One likely effect of this problem is to reduce the cross-country variation in these indicators, making it more difficult, other things equal, to reject null hypotheses. Given these problems—especially the small number of countries surveyed and the small number of entrepreneurs sampled in each country—it is all the more remarkable that Brunetti, Kisunko, and Weder find significant links to investment and growth.

“Contract-Intensive Money”

In response to the perceived shortcomings of subjective measures, Clague and others (1999) introduced an objective measure called “contract-intensive money,” equal to the proportion of M2 not constituted by currency outside banks. Data coverage for contract-intensive money over time and across countries, calculated from standard monetary indicators, is far superior to that of any of the subjective measures. Moreover, because it is objectively measured, contract-intensive money is not subject to contamination by knowledge of recent economic performance by country experts or surveyed entrepreneurs, removing an important potential source of endogeneity.

The logic behind using contract-intensive money is that for various reasons individuals will hold a larger proportion of their financial assets in the form of currency in environments in which third-party enforcement of contracts is unreliable. Bank deposits are less safe in environments in which one cannot rely on contracts. Not only are banks more likely to default on their obligations, but governments unable or unwilling to enforce contracts between private parties are unlikely to respect private property themselves (by refraining from expropriating bank deposits, for example). The contract-intensive money ratio is the outcome of choices by wealth-maximizing firms and

individuals: it will increase in countries in which governments better enforce and respect contracts and private property rights. Where property and contract rights are less clearly defined and secure, borrowers will find it more difficult to offer collateral as security against default, inhibiting the development of financial institutions and sophisticated financial instruments and limiting the availability of money other than currency.

Clague and others show that contract-intensive money is significantly and positively correlated with growth rates and (even more strongly) with investment's share of GDP over the 1970–92 period. Each one standard deviation increase in contract-intensive money (about 0.14) is associated with a 0.6 percentage point increase in growth and a 2.5 percentage point increase in investment's share of GDP in Barro-type regressions. Findings are very similar if the initial value for contract-intensive money (from 1969) is substituted for the period (1969–90) average to minimize endogeneity problems. Results are not sensitive to controlling for inflation (which makes holding currency less attractive) or for the ratio of M2 to GDP, the most common measure of financial development.

Despite its virtues as an easily measured, objective indicator with broad coverage over time and across countries, contract-intensive money is an imperfect indicator, because it only partially captures variations in the institutional environment. It measures the tradeoff between holding assets in only one of two forms: currency and bank deposits. Ideally, a broader measure could be constructed that captures holdings of foreign currencies, gold, and other assets (which should constitute a higher proportion of assets in countries with poor contract enforcement). Unfortunately, the data do not permit construction of such indicators for a reasonable size sample of countries.

All of these studies point to significant and positive relations between good governance and growth, with strong indications that good governance causes higher growth. While any single measure of government social capital is imperfect, the shortcomings of each of the various measures used in the literature are largely independent of one another. The empirical findings generated by this body of work must therefore be taken very seriously.

Civil Social Capital

Civil social capital can affect economic performance through two major channels: microeconomic and macropolitical. At the microeconomic level, social ties and interpersonal trust can reduce transactions costs, help enforce contracts, and improve access to credit for individual investors. At the macropolitical level, social cohesion and civic engagement can strengthen democratic governance (Almond and Verba 1963), improve the efficiency and honesty of public administration (Putnam 1993), and improve the quality of economic policies (Easterly and Levine 1997). For the most part, formal theory about microeconomic level effects is better developed than is theory about macropolitical channels. (The exception is Alesina and Drazen 1991, which sets forth a theory of macro channels. For microeconomic effects, see Zak and Knack 2001; Greif 1993.) The empirical literature represents a mix of the two channels. In some studies the

evidence simply shows that civil social capital matters for economic performance, with no attempt to distinguish microeconomic from macropolitical channels.

Civic Community and Government Performance

Helliwell and Putnam (1995) provide a rigorous test of Putnam's (1993) hypothesis on the role of social capital in accounting for variations in economic performance in different parts of Italy. They test three alternative regional indicators of social capital (borrowed from Putnam), all of which they find to be positively and significantly related to growth over the 1950–90 period, controlling for 1950 per capita income. The simplest indicator is based on surveys of citizen satisfaction with the activities of regional governments. This measure aggregates the share of respondents who were “very” or “rather” satisfied by region over all such surveys conducted between 1977 and 1988.

The second indicator measures regional government performance by aggregating 12 variables—some objective, others subjective—into a single index. Variables include the timeliness of budgets, legislative innovation, and the speed and accuracy of responses to requests for information.

The third measure is an index of “civic community,” based on four components: newspaper reading, number of sports and cultural organizations, turnout in referendums, and the incidence of preference voting (a proxy for patron-client networks, which Putnam view as antithetical to social capital). Civic community is viewed as a determinant of institutional performance, leading to greater citizen satisfaction with regional government. Putnam (1993) had earlier demonstrated strong relationships among the regions between civic community and government performance and between civic community and citizen satisfaction with government.

Helliwell and Putnam (1995) emphasize the effects of institutional performance on growth, arguing that the civic community and citizen satisfaction indicators are proxies for regional government performance, which is difficult to measure directly. They also note, however, that social capital could influence the efficiency of operations within individual firms, an idea discussed at much greater length in Putnam (1993). Conceivably, then, civic community could be related to growth independently of its effects on government performance. Helliwell and Putnam do not test for the relative importance of microeconomic and macropolitical channels, however, as their regressions never include more than one of the three social capital indicators at a time.

Generalized Trust

Fukuyama (1995) appears to have been the first scholar to attribute cross-national differences in economic performance to variations in trust and “spontaneous sociability.” Although these dimensions of civil social capital are not perfect substitutes for contract and commercial law,

the presence of a high degree of trust as an additional condition of economic relations can increase economic efficiency by reducing . . . transactions costs,

incurred by activities like finding the appropriate buyer or seller, negotiating a contract, complying with government regulations, and enforcing that contract in the event of dispute or fraud. Each of these transactions is made easier if the parties believe in each other's basic honesty: there is less need to spell things out in lengthy contracts; less need to hedge against unexpected contingencies; fewer disputes, and less need to litigate if disputes arise. (p. 151)

Fukuyama stresses the relation between social capital and industrial organization, arguing that where trust does not extend beyond the family, the supply of capital and of qualified managers is limited, constraining the scale of private firms. More generally, he argues that higher-trust societies are better able to implement efficient organizational innovations when changes in technology or other factors make existing organizational forms obsolete. Trust can influence economic outcomes through macropolitical channels as well, because "sociability is also a vital support for self-governing political institutions" (p. 325), as it is in Putnam (1993).

Fukuyama's empirical evidence is mostly descriptive and qualitative rather than quantitative. Based on impressionistic evidence, he classifies the United States, Japan, and Germany as high-trust societies and France, Italy, China, the Republic of Korea, Hong Kong (China), and Taiwan (China) as low-trust societies,

La Porta and others (1997) and Knack and Keefer (1997) use data from the World Values Surveys to conduct systematic tests of Putnam's and Fukuyama's hypotheses. These surveys polled roughly 1,000 respondents in each of several dozen countries. The first round of surveys, conducted in the early 1980s, included mostly industrial countries. The second, larger round, conducted in the early 1990s, included more developing countries and transition economies. The surveys were intended to be nationally representative, but urban areas and better-educated people are believed to be somewhat overrepresented, particularly in developing countries (Inglehart 1994).

Trust values for each country are calculated as the percentage of respondents who agree with the statement that "most people can be trusted" rather than with the statement that "you can't be too careful in dealing with people." Values range from about 8 percent for Brazil to about 60 percent for the Nordic countries.

La Porta and others (1997) and Knack and Keefer (1997) show that trust is associated with better ratings on subjective measures of government efficiency, corruption, and infrastructure quality (from ICRG and other sources).⁷ Knack and Keefer also find that trust in people strongly predicts World Values Survey measures of confidence in government institutions. These findings are consistent with Putnam's (1993) finding that government performance is higher in Italian regions scoring higher on

⁷La Porta and others control for per capita income, include all countries for which data were available, and use trust values from the second round of surveys. Knack and Keefer control for income and education, exclude countries that were once communist, and use the results of the first round of surveys on trust. **[Is this what you mean?]**

social capita indicators. La Porta and others also find that higher-trust societies have lower infant mortality, controlling for income, a result found in the United States by Kawachi and others (1997).

La Porta and others test Fukuyama's firm scale hypothesis, regressing the ratio of the revenues of the 20 largest firms to GDP on per capita income, trust in people, and a measure of trust in family members. The scale measure is unrelated to income, strongly and positively related to trust in people, and strongly and negatively related to trust in family, providing striking support for Fukuyama.

Knack and Keefer (1997) and Zak and Knack (2001) provide the most extensive cross-country tests of the relation between trust in people and economic performance. For the 29 market economies included in the World Values Surveys, Knack and Keefer add the survey's trust measure to Barro-type investment and growth regressions. Each 12 percentage point increase in trust is associated with an increase in annual income growth of about 1 percentage point. Each 7 percentage point increase in trust is associated with a 1 percentage point increase in investment's share of GDP. Given the wide range of observed values for trust (54.5 percentage points separate Norway from Brazil), these are very large effects.

Because trust is measured in 1980 or 1981 for most of the sample and in 1990 for the remainder, the dependent variables in Knack and Keefer (1997) are measured for the 1980–92 period. Results for growth but not for investment are weaker when longer periods (1970–92 or 1960–92) are used. As a correction for possible endogeneity of trust, Knack and Keefer also report two-stage least squares estimates, using ethnic homogeneity and the number of law students as a fraction of all postsecondary students as exogenous instruments. Trust remains a significant predictor of growth for the 1980–92 period. Testing an interaction term comprising per capita income and trust, Knack and Keefer find that the impact of trust on growth is significantly higher for poorer countries, suggesting that interpersonal trust is more important where legal systems and financial markets are less well developed.

Zak and Knack (2001) present a general equilibrium growth model in which investors of varying types (defined by ethnicity, class, age or other differences) are randomly matched each period with brokers of varying types, where trust declines with differences in type. Low trust is predicted to reduce investment and growth. Their empirical work adds 12 countries to the 29-country sample used by Knack and Keefer (1997), using data from a third round of WVS surveys conducted in 1995–96 (see annex). Their results strengthen earlier findings: trust is significantly related to growth even for longer periods, such as 1970–92, and the estimated impact of trust on growth is less sensitive to model specification than in Knack and Keefer (1997).

Zak and Knack (2001) report that trust is higher in countries with stronger formal institutions for enforcing contracts and reducing corruption and in countries with less-polarized populations (as measured by income or land inequality, ethnic heterogeneity, and a subjective measure of the intensity of economic discrimination). They also show

that formal institutions and polarization appear to affect growth rates partly through their effect on trust. Income inequality, land inequality, discrimination, and corruption, for example, are associated with significantly lower growth rates, but the association of these variables with growth dramatically weakens when trust is controlled for.

Several other studies briefly report tests of the relation between trust and growth. La Porta and others find that trust in people is positively associated with growth (significant at the 10 percent level) over the 1970–93 period, controlling only for 1970 per capita income. Granato, Inglehart, and Leblang (1996a) test trust and five other “cultural” variables in growth regressions for the 1980–89 period. Controlling for per capita income levels and primary education enrollment in 1980, they find that trust is positively and significantly related to growth.

Helliwell (1996) finds that trust and an index of group memberships are each negatively and significantly related to productivity growth for a sample of 17 OECD members. His sample omits the poor- and middle-income countries for which trust has the largest effects (Knack and Keefer 1997). In examining productivity growth only, Helliwell neglects the possibility that trust influences income growth largely through factor accumulation channels, as Knack and Keefer (1997) show.

In their investment and growth tests, Knack and Keefer (1997) supplement the trust in people measure with an indicator of trustworthiness based on other items in the World Values Surveys. They construct an index of trustworthiness, or of the strength of “civic norms,” from responses to five questions about whether various forms of cheating are ever justifiable. The items include cheating on taxes, claiming government benefits to which one is not entitled, failing to report damage one has done accidentally to a parked vehicle, avoiding paying a fare on public transport, and keeping money one finds. As with trust in people, this civic norms index is positively and significantly related to growth over the 1980–92 period and to investment over various periods (1960–92, 1970–92, 1980–92).

Few of these studies devote any attention to measurement issues, neglecting the possibility that translation differences or less than fully random samples could introduce substantial error into country-level estimates of trust derived from the World Values Surveys. An exception is Knack and Keefer (1997), who find that trust is strongly correlated ($r = .67$) across countries with the percentage of “lost” wallets returned in experiments conducted by *Reader's Digest*. This result is consistent with the view that nonrandom samples and translation difficulties do not introduce severe measurement error in the cross-country trust data. The high correlation between the trust indicator and returned wallets and the low correlation between the trust indicator and trust in family members also suggest that the trust indicator is capturing generalized trust (trust in strangers) rather than specific or particularized trust in people with whom one has repeated interactions or who belong to the same groups. This is an important finding, as generalized trust is viewed by most social capital theorists as a source of reduced transactions costs and reduced social conflict (Zak and Knack 2001), whereas particularized trust has more ambiguous implications for economic performance.

Cooperation and trust within ethnic groups or special interest groups can facilitate their organization for rent-seeking purposes or even violent conflict (Knack and Keefer 1997).

Group Membership

Putnam (1993) views memberships in horizontal (i.e. non-hierarchical) associations as a source of trust and of social ties conducive to economic performance. Olson's (1982) view of associations is much less favorable; he emphasizes their growth-impairing, rent-seeking functions. Knack and Keefer (1997) test these alternative theories using World Values Survey data on group memberships in 26 market economies. The surveys asked respondents whether they belonged to any of 10 types of organizations. Knack and Keefer calculate the mean number of group memberships per respondent and compute country averages.

In Barro-type regressions, group memberships are found to be unrelated to growth and negatively related to investment rates. These findings offer no support to Putnam (1993) and little support to Olson (1982). Knack and Keefer conjecture that both could be right, however, with the positive effects of groups hypothesized by Putnam canceling out the negative effects stressed by Olson. They attempt to provide a finer test by disaggregating groups into those that seem to have primarily social goals ("Putnam groups") and those that are more likely to engage in lobbying ("Olson groups"). Memberships in Olson groups (trade unions, political parties or groups, professional associations) shows no significant relation to growth or investment rates. Paradoxically, Putnam groups (religious organizations, youth groups, and education, arts, music, or cultural activities) show a strong but association with investment and no significant association with growth.

There are several possible explanations for these surprising findings. It could be that the World Values Surveys data on group memberships are faulty. The categories of groups included in the surveys are very broad, making it difficult to confidently distinguish rent-seeking from purely social groups, and the depth of commitment to groups is not measured. However, there are serious theoretical deficiencies in the perspectives on groups advanced by both (1993) and Olson (1982). Putnam claims that associations "instill in their members habits of cooperation, solidarity, and public-spiritedness" (pp. 89-90). But many (even purely social) groups segregated by class, occupation, or ethnicity may build cooperation and trust only among group members, perhaps even encouraging distrust between members and nonmembers. Olson's predictions on growth and groups overlook the fact that professional or trade associations that engage in special-interest lobbying activities may also enforce ethical codes and standards that build generalized trust (Bergsten 1985) and reduce transactions costs by spreading information about the identity of cheaters (Bernstein 1992).

Social Polarization

Several studies focus on ethnic divisions and inequality as sources of slower growth through their effects on trust, social cohesion, economic policymaking, and even violent conflict. Most of these studies posit macropolitical channels through which polarization impairs economic performance. (An exception is the model of Zak and Knack 2001, in

which the strength of informal sanctions against cheating weakens with social distance, increasing monitoring costs of contractual agreements between investor-broker pairs.)

Easterly and Levine (1997) show that more ethnically heterogeneous societies grow more slowly than others, controlling for the usual growth regressors. The predicted growth rate for the most homogeneous societies (such as Japan) exceeds the predicted rate for the most heterogeneous societies (such as Tanzania) by more than 2 percentage points. Ethnic heterogeneity is correlated with a range of indicators of inefficient policies, including a high black market currency premium, high levels of corruption, low schooling rates, a lack of financial development, and poor infrastructure.

Easterly and Levine argue that ethnic divisions increase polarization of preferences for public goods, impeding agreement over their provision. (Alesina, Baqir, and Easterly 1996 provide evidence from U.S. city and county data supporting this hypothesis.) Ethnically divided societies will also be prone to competitive rent-seeking, with increased incentives for the group in power to create rents (through overvalued exchange rates and other means) that accrue to their own ethnic group at the expense of others. As Easterly and Levine acknowledge, however, ethnic divisions generally remain a significant predictor of slower growth even when a wide range of policies is controlled for, consistent with the possibility that polarization influences growth through microeconomic channels as well.

Building on models of social choice under polarized preferences, Keefer and Knack (1995) find that property rights are more uncertain in highly polarized societies, as measured not only by ethnic tensions and heterogeneity but by income and land inequality as well. Berg and Sachs (1988) test the effects of income inequality on indebtedness, finding that countries with high income inequality are more likely to default on sovereign debt, as indicated by discounts on country debt in secondary markets. They conclude that the adoption of needed policy changes (including trade liberalization and deficit cutting) on a timely basis is hindered by high income inequality. Using a wider array of polarization indicators and a subjective indicator of the likelihood of default, Keefer and Knack (1995) corroborate the Berg and Sachs findings for a much larger sample of countries.

Keefer and Knack (1995) examine various arguments explaining why inequality is commonly linked empirically with slower growth, as Alesina and Rodrik (1994) and other have shown. They present evidence that inequality's impact on growth occurs at least partly through increasing the uncertainty of property rights. Controlling for the ICRG property rights index, they show that the estimated impacts of income and land inequality on growth diminish substantially but do not disappear. Their results leave open the possibility that polarization may have more direct effects on economic performance—by impairing the social and psychological basis for trust among individual transactors, for example. Consistent with this possibility, Zak and Knack (2001) find that income and land inequality are strongly associated with slower growth in their 41-country sample but that the association disappears when the World Values Surveys trust indicator is controlled for.

Rodrik (1999) constructs a simple model of social conflict in which a country's ability to adjust efficiently to exogenous shocks (such as adverse shifts in the terms of trade) is a function of "latent social conflict" and "institutions of conflict management." Efficient adjustment to adverse shocks often has substantial distributional consequences: where deep social cleavages exist along ethnic or other lines, negotiating a new social bargain will take longer, as Alesina and Drazen (1991) show. Strong conflict management institutions essentially provide rules that reduce the share of society's resources that the competing groups can potentially capture. Rodrik hypothesizes that adverse shocks will be more harmful for growth when latent conflicts are more severe and when rules effectively constrain the stakes of the conflict.

Rodrik's dependent variable is the change in the average annual growth rate between 1960–74 and 1975–89. Low values are identified with growth "collapses," in which economies that grew rapidly before the shocks of the 1970s subsequently stagnated or shrank. He finds that changes in the terms of trade during the 1970s are associated with larger declines in growth, although this result is sensitive to changes in the sample and the model specification. Countries with smaller declines in growth have better conflict management institutions, as proxied by Gastil's civil liberties and political freedoms indicators, indexes from ICRG or BI, and social security and welfare expenditures. Smaller declines in growth are also associated with less severe latent social conflict, as measured by income or land inequality, ethnic diversity or tensions, and the World Values Surveys trust indicator.

Rodrik's central hypothesis calls for testing three-way interaction terms: shocks harm growth more when latent conflict is worse and institutions are weaker. He constructs several of these interaction terms, multiplying the change in the terms of trade by a latent conflict proxy and a conflict management proxy (for example, ethnic heterogeneity and the Gastil index). As predicted, higher values of these terms are associated with larger growth collapses. However, none of the components of the interaction terms is allowed to enter the regression independently, because the model specification forces all of the growth effects of any one component (such as ethnic heterogeneity) to be conditional on the levels of the other component. A properly specified test of the basic hypothesis, recognizing the many other theories on how polarization and institutions influence economic performance, would allow the data rather than the researcher to decide whether they influence growth only by conditioning responses to external shocks.

Collier (1998b) views the impact of ethnic diversity as being conditional on political institutions. According to him, "an ethnically diverse society [may] gain more from democracy than a homogeneous society because the latter has less need of dispute resolution." (p. 5) Collier finds empirical support for this proposition in a sample of 94 countries (1960–90). In his sample the harmful effects of ethnic heterogeneity on growth are significantly stronger among countries with fewer political freedoms, as measured by the Gastil index.

The impact of ethnic diversity on social and political outcomes often turns out to be nonlinear. As Horowitz (1985) notes, polarization can be greatest when there are a small number of groups of roughly equal size. With a proliferation of small groups, no one group will normally have the incentive or opportunity to impose its will on all others. Collier (1998b) finds some evidence that the likelihood of civil wars is greatest for countries that rank in the middle in terms of ethnic heterogeneity. Interpersonal trust also initially declines as heterogeneity increases before rising again (Zak and Knack 2001). Keefer and Knack (1995) find that the uncertainty of property rights is greatest for countries in the middle of the ethnic heterogeneity rankings.

Cultural Explanations: “Achievement Motivation” and Communitarianism

Participants in a symposium in the *American Journal of Political Science* debated the importance of cultural influences on economic performance (Granato, Inglehart, and Leblang 1996a, 1996b; Jackman and Miller 1996; Swank 1996). Building on Weber’s Protestant ethic thesis, Granato, Inglehart, and Leblang (1996b) hypothesize that norms encourage social mobility and the accumulation of human and physical capital in some societies but discourage them in others, with implications for economic development. Using World Values Surveys data from 25 countries, they find that an index of “achievement motivation” is positively and significantly related to growth in a Barro-type model.

Granato, Inglehart, and Leblang construct the achievement motivation index from responses about traits children should be encouraged to acquire. Index values equal the percentage of the population in each country that cites “thrift” or “determination” minus the percentage that cites “obedience” or “religious faith.” Because growth is measured for 1960–89 and the index is measured from surveys conducted in the early 1990s, their results could easily be driven by reverse causation. The social and geographic mobility induced by rapid growth, for example, could disrupt traditional social ties that encourage obedience and religious faith (Olson 1963).

Achievement motivation is hypothesized to influence economic performance by increasing individuals’ willingness to save, invest, work hard, and acquire productive knowledge. Swank (1996) takes a macropolitical approach, building in part on Olson’s (1982) theory of “encompassing interests.” He argues that economic policymaking will be less conflictual and more conducive to growth in “communitarian” societies, including “social corporatist” polities such as Austria, Denmark, Finland, Norway, and Sweden and “Confucian statist” polities such as China, Japan, and the Republic of Korea. Adding dummy variables for “corporatist” and “Confucian” to the Granato, Inglehart, and Leblang (1996b) model, Swank shows that growth rates are significantly higher in those societies and that once these additional variables are controlled for, achievement motivation is no longer related to growth. Unexplained is how Confucianist norms, long believed inimical to economic progress, suddenly became conducive to rapid growth in recent decades.

Poverty, Income Distribution, and Social Capital

Evidence from household and village studies suggests that civil social capital in the form of trust or social ties can play an important role in alleviating poverty (Grootaert 1999; Narayan and Pritchett 1999). The rich, it can be argued, have much less to gain than the poor from membership in groups that provide mutual aid or health or education services, because they can afford to purchase these services (Grootaert 1999). Similarly, institutions or cultural traditions that broaden participation (as proxied by Gastil's civil liberties index) can be expected to have progressive effects, extending to poor people the kind of political influence and access that the rich tend to have in all societies.

The distributional implications of government social capital are more ambiguous. Secure property rights and effective contract enforcement are often viewed as benefiting primarily the rich at the expense of the poor. This perception is based on the intuition that unlike rich landowners or capitalists, the poor have little property to protect. Similarly, contractual agreements are often perceived as the product of unequal bargaining power, with rich creditors, landowners, or capitalists enforcing contract provisions against poor borrowers, tenants, employees, or consumers.

But institutions for promoting property rights and enforcement of contracts may have powerful egalitarian effects, enabling individuals with little property and no political connections to invest in human capital and small enterprises. Fair and transparent procedures for property, contracts, and government regulation of business facilitate the entry of informal sector entrepreneurs and workers—most of whom belong to low- or middle-income groups—into the formal sector and promote the accumulation of physical and human capital, raising profits and wages (de Soto 1989). Strong and predictable property and contract rights are necessary for the emergence of well-developed financial markets, which are at least as important for poor and middle-income borrowers as for the well off, who can more easily arrange alternative sources of credit. Unlike the rich, the poor may be dependent on credit for acquiring secondary school education, which has a high cost in terms of forgone income in developing countries.

Thus one could argue that the institutions that best ensure property rights and contract enforceability are the very institutions that best improve the welfare of the poor. Olson (1994) goes even farther, arguing that much of the poverty in the developing world is the product of institutions chosen by politically connected individuals and groups in their own interests. Bureaucratic corruption enriches government officials, for example, who supplement their salaries with bribes obtained by imposing burdensome procedures for obtaining licenses and permits.

This rest of this section examines empirically the relation between social capital indicators and measures of poverty and distribution. One way to address this question is by noting that property rights are significantly related to growth (Knack and Keefer 1995) and that growth is associated with reductions in poverty rates (Squire 1993). Thus property rights must make the poor better off. It is conceivable, however, that the source of growth matters. Most episodes of growth are accompanied by reductions in poverty, but the exceptions could be those in which, for example, growth is generated by secure

and stable property and contract rights rather than by public investments in primary or secondary education, health, or infrastructure. New and direct evidence on these issues is presented in this section.

Income Distribution

To test the effect of social capital on income distribution, we use the Gini coefficients of income inequality and income share by quintile from the “high quality” subset of the Deininger and Squire (1996) time-series compilation. The change in Gini coefficients is computed for roughly the 1970–92 period. (Inequality data are not available for every year for every country, so beginning and end years may differ somewhat across countries.)

Average annual growth in per capita income was computed for each of the five income quintiles for the same period, using the purchasing power-adjusted income data from Summers and Heston (1991). The initial-year per capita income for each country is first multiplied by the initial-year share of each quintile and then multiplied by five to obtain the per capita income for each quintile. This procedure is repeated using end-year values; average annual growth in per capita income is computed from these initial- and end-year per capita income levels (table 11.1).

Table 11. 1 Countries Included in One or More Regressions

<i>Country</i>	<i>Gini 1990 – Gini 1970</i>	<i>ICRG</i>	<i>BERI</i>	<i>CIM</i>	<i>Trust</i>
Australia	9.7				
Bangladesh	2.8		x		
Brazil	1.99				
Canada	-4.65				
Chile	11.88				
Colombia	-0.7				
Costa Rica	1.67		x		x
Denmark	2.20				
Dominican Republic	4.00		x		
Finland	-5.69		x		
France	-11.3				
Germany	-5.47				
Greece	0.08				
Hong King	4.1		x	x	x
Honduras	-9.25		x		x
Hungary	9.44	x	x	x	
India	1.64				
Indonesia	0.99				x
Iran	-2.55				x
Ireland	-4.09				
Italy	-4.11				

Jamaica	-2.79		x		x
Japan	-0.5				
Korea, Rep. of	0.34				
Malaysia	-1.65				
Mexico	-2.72				
Netherlands	0.78				
New Zealand	10.16		x		x
Norway	-2.73				
Pakistan	1.24				x
Panama	-0.53		x	x	x
Philippines	-4.39				
Poland	3.27	x	x	x	
Portugal	-4.95				
Singapore	-2				x
Spain	-11.2				
Sri Lanka	8.99		x		x
Sweden	-0.97				

Taiwan (China)	0.69			x	
Tanzania	-0.9		x		x
Thailand	8.87				x
Tunisia	-2.06		x		x
Turkey	-11.91				
United Kingdom	7.3				
United States	4.3				
Venezuela, R.B. de	6.19				x
Yugoslavia	-0.12		x	x	x

We calculate standard Barro-type growth regressions for the sample of countries for which data on quintile shares are available, where the dependent variable is average annual income growth over the 1970–92 period (table 11.2). Independent variables are (the log of) 1970 per capita income as a share of U.S. income; mean years of completed education for people 25 and older in 1970 (from Barro and Lee 1993); the trade intensity ratio averaged over the growth period (exports plus imports as a share of GDP, from Summers and Heston 1991); and the ICRG index of property rights, as constructed by Knack and Keefer (1995). Most results for this 37-country sample are consistent with those generated from larger samples: incomes converge conditional on other variables included in the model, and education, trade intensity, and property rights are all associated with higher growth rates. Education and trade intensity are not significant in this sample, however. The ICRG index coefficient implies that each 10-point increase in the 50-point scale is associated with an increase in growth of nearly 1.6 percentage points a year.

Table 11.2 also reports analogous tests in which the dependent variable is the growth of incomes for each quintile, from the poorest (Q1) to the richest (Q5). In addition to the regressors included in tests of growth overall, the quintile growth regressions control for initial quintile share. Where the initial quintile share is already relatively high, that quintile's income growth is less likely to get a boost from further increases in the share, so the expectation is that the sign on this coefficient will be negative. As expected, all coefficients are negative, but they are not statistically significant at conventional levels.

The ICRG coefficients are slightly smaller for the poorer two quintiles than for the richer three, but these differences are not statistically significant. For the regression for the second quintile, which produces the lowest ICRG coefficient (0.133), the null hypothesis that the ICRG coefficient is equal to 0.166 (its highest value, from quintile 4) cannot be rejected. Trade openness generates somewhat larger coefficient estimates for the poorer quintiles, although the differences across quintiles are not significant.

Interestingly, the model better explains growth variations for the richer quintiles than for the poorer ones: adjusted R^2 values steadily increase (from 0.27 for quintile 1 to 0.56 for quintile 5) and standard errors steadily fall (from 1.9 to 1.2). This difference may be caused by greater measurement error in attempting to measure percentage point changes in small numbers (incomes of the poor) than in large numbers (incomes of the rich). There is no evidence in these data of a global trend toward greater or lesser inequality of incomes within countries, as mean growth rates vary little across the quintiles (from 2.15 percent to 2.27 percent).

Table 11.2 ICRG Relation between Index and Income Growth by Quintile, 1970–92

<i>Variable</i>	<i>Overall</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Q5</i>
Intercept	5.044 (1.260)	6.397 (1.575)	5.721 (1.462)	5.679 (1.456)	7.182 (1.481)	6.267 (2.040)
Log (income/U.S. income), 1970	-2.705 (0.577)	-2.366 (0.640)	-2.484 (0.691)	-2.573 (0.619)	-2.615 (0.587)	-2.908 (0.629)
Quintile share, 1970		-0.225 (0.123)	-0.057 (0.106)	-0.057 (0.095)	-0.129 (0.077)	-0.017 (0.024)
Mean years education 1970	0.068 (0.108)	0.053 (0.174)	-0.048 (0.143)	-0.028 (0.123)	0.070 (0.108)	0.170 (0.110)
Trade intensity, 1970–90 mean	0.007 (0.006)	0.010 (0.006)	0.009 (0.007)	0.008 (0.006)	0.008 (0.006)	0.006 (0.007)
ICRG index of property rights	0.157 (0.028)	0.133 (0.030)	0.147 (0.032)	0.165 (0.029)	0.166 (0.029)	0.151 (0.032)
Adjusted R^2	.56	.27	.39	.46	.52	.56
Standard error of the estimate	1.18	1.86	1.58	1.45	1.34	1.19
Mean, dependent variable	2.22	2.15	2.26	2.27	2.22	2.22

Note: Number = 37. White-corrected standard errors are shown in parentheses.

A similar set of regression results for growth over the shorter (1980–92) period (which also differs slightly for some countries) is shown in table 11.3. Because the ICRG index is measured in 1982, this period is less subject to endogeneity problems than the

longer period. The disadvantage of using shorter periods is that growth variations are driven more by shocks and are more difficult to explain with models designed to account for cross-country variations in long-run growth.

Table 11.3 Relation between Social Capital and Income Growth by Quintile

<i>Item</i>	<i>ICRG</i> <i>Income growth 1980–92</i>	<i>BERI</i> <i>Income growth 1970–92</i>
Overall	0.196 (0.038)	0.360 (0.110)
Quintile 1 (poorest)	0.331 (0.099)	0.580 (0.158)
Quintile 2	0.209 (0.061)	0.575 (0.118)
Quintile 3	0.214 (0.050)	0.581 (0.090)
Quintile 4	0.217 (0.038)	0.544 (0.079)
Quintile 5 (richest)	0.164 (0.044)	0.256 (0.133)
Number	39	27

Note: White-corrected standard errors are shown in parentheses. Other independent variables are initial per capita income, initial quintile share (except in “overall” growth equation), initial mean years completed education, and period mean of trade intensity ratio.

The ICRG column in table 11.3 reports the coefficients and standard errors for the ICRG index from a set of six regressions identical to those in table 11.2 (with other independent variables appropriately adjusted to 1980). The coefficient is at its highest (0.331) for the poorest quintile—twice as high as for the richest quintile (0.164). The null hypothesis that the fifth quintile coefficient is 0.331 can be rejected at the 5 percent level.

Regressions were also run using the BERI property rights index. Because the BERI index is measured in 1972, there is less potential for reverse causation than with ICRG, so only the 1970–92 growth period is analyzed. The growth effects of BERI for the four poorest quintiles vary only trivially, with each 2-point increase in the 16-point scale raising growth by more than 1 percentage point for each quintile. This impact declines by more than half for the richest quintile, where an increase in BERI of 4 points is required to raise growth 1 percentage point. The coefficient for the fifth quintile (0.256) is significantly smaller than for the other quintiles.

Similar tests were conducted using contract-intensive money and the World Values Surveys trust indicator as social capital measures. In these small samples, neither proves to be a significant determinant of growth, either for overall growth or for the growth of incomes in any of the five quintiles.

The findings in tables 11.2 and 11.3 strongly indicate that government social capital improves incomes for all groups, not merely those with the most property in need

of protection. If anything, incomes of the poor increase more rapidly than those of the rich when the quality of governance is higher, as shown by the pattern of coefficients in table 11.3.

Similar tests were run with changes in the Gini index of income inequality between 1970 and 1992 as the dependent variable (table 11.4). These samples are somewhat larger than in the quintiles regressions, because Squire and Deininger (1996) include more Gini values than quintile share values.

Table 11.4. Relation between Social Capital and Changes in Gini Coefficient of Income Inequality, 1970–92

<i>Variable</i>	<i>ICRG</i>	<i>BERI</i>	<i>Trust</i>
Intercept	6.276 (3.517)	12.049 (4.552)	11.965 (5.220)
Gini coefficient	-0.143 (0.084)	-0.139 (0.101)	-0.280 (0.113)
Mean years education	0.773 (0.392)	1.622 (0.402)	0.603 (0.449)
Trade intensity	0.008 (0.011)	0.014 (0.008)	-0.030 (0.024)
ICRG index	-0.148 (0.082)		
BERI index		-1.630 (0.375)	
Trust			-0.117 (0.073)
Number	45	32	30
R^2	.14	.30	.18
Adjusted R^2	.05	.20	.05
Standard error of the estimate	5.40	5.04	5.76
Mean, dependent variable	-0.16	-0.55	-0.50

Note: White-corrected standard errors are shown in parentheses.

Gini values converge in this sample (conditional on the other regressors), as higher initial levels of the Gini index are associated with larger (but not always significant) declines over the period. Higher educational attainment is associated, somewhat surprisingly, with increasing inequality, although this effect is not always significant. Trade intensity shows no strong or consistent impact on changes in Gini.

Higher scores for ICRG and BERI are associated with declines in income inequality. For ICRG this relation is only marginally significant at conventional levels:

each 7-point increment in the 50-point ICRG scale is associated with a 1-point decline in the Gini coefficient. For BERI the relation with Gini declines is highly significant, with each 1-point rise in the 16-point BERI scale reducing the Gini coefficient by 1.6 points. Inequality also declines in higher-trust societies. Each 8- or 9-point increase in the percentage of people trusting is associated with a 1-point decline in the Gini coefficient. This partial correlation is only marginally significant, however. The results shown in table 11.4, derived using a composite indicator of inequality and a slightly larger sample than the earlier tests used, confirm the findings from the quintile growth regressions. All of these results show that social capital not only improves economic performance, it is progressive, in the sense that it helps the poorer classes more than it helps the richer classes.

Absolute Poverty

Bruno, Ravallion, and Squire (1998) find that growth is unrelated to changes in income distribution, implying that absolute poverty should fall with growth. They provide direct evidence on this point, showing that a 10 percent increase in per capita income is associated with a 20 percent average decline in the percentage of a country's population living on \$1 a day or less. In 17 of the 20 countries with data on changes in this measure of absolute poverty over time, per capita income and the percentage of people living on less than \$1 a day move in opposite directions.

Because the social capital indicators analyzed earlier have either neutral or pro-egalitarian effects on income distribution and have elsewhere been linked to more rapid growth, there is a strong presumption that improvements in the rule of law, property and contract rights, and trust in people reduce absolute poverty. Data on changes over time in absolute poverty are available for only a very small number of countries. For this reason, no direct tests are provided here of the impact of social capital variables on changes in absolute poverty. Data on absolute poverty levels are available for enough countries represented in the ICRG data set to conduct tests of the effect of government social capital on absolute poverty. These tests, of course, are more subject to concern about reverse causality than they would be if changes in absolute poverty rates were the dependent variable.

Regressions were run on a sample of 35 countries in which the dependent variables are the percentage of a country's population living on less than \$1 a day (equations 1 and 3 of Table 11.5) and less than \$2 a day (equations 2 and 4). For countries with two or more observations on poverty, the most recent one was used. The earliest observation used is from 1986; the most recent is from 1995. The mean year is 1992, with a standard deviation of two years.

The ICRG index (averaged over 1982–90) is negatively and significantly related to poverty levels in equations 1 and 3. Each 1 point rise in the 50-point ICRG index reduces the percentage in poverty by slightly more than 1 percentage point on average. This relation weakens when per capita income is controlled for (equations 2 and 4), indicating that government social capital reduces poverty rates in part by raising incomes generally.

These regressions control for a time trend variable, because poverty is measured in different years for different countries. “Year” is equal to the year in which poverty is measured minus 1985; it thus varies from 1 (poverty measured in 1986) to 10 (poverty measured in 1995). Coefficients for this variable are negative and insignificant. Education is controlled for, using measures of the percentage of adults who have completed primary, secondary, and tertiary schooling. Only secondary education is significant. An increase of 5–6 percentage points in secondary schooling is associated with a fall in poverty of 1 percentage point.

Table 11.5 Relation between Government Social Capital and Absolute Poverty

<i>Variable</i>	<i>Equation 1 (percentage of population living on less than \$1 a day)</i>	<i>Equation 2 (percentage of population living on less than \$2 a day)</i>	<i>Equation 3 (percentage of population living on less than \$1 a day)</i>	<i>Equation 4 (percentage of population living on less than \$2 a day)</i>
Intercept	77.129 (17.313)	110.220 (14.520)	70.942 (18.639)	99.478 (15.907)
Year of survey	-0.914 (1.504)	-0.777 (1.539)	-0.869 (1.465)	-0.699 (1.373)
Primary school completed (percent)	1.971 (4.184)	0.101 (4.392)	2.000 (3.958)	0.152 (3.784)
Secondary school completed (percent)	-19.432 (7.211)	-20.029 (6.798)	-17.067 (7.367)	-15.922 (6.594)
Tertiary school completed (percent)	-18.791 (27.808)	-10.998 (26.684)	-0.687 (28.762)	20.434 (26.797)
ICRG (1982–90 mean)	-1.045 (0.578)	-1.183 (0.501)	-0.671 (0.651)	-0.531 (0.599)
Per capita income, 1980 (in thousands of \$)			-3.890 (2.204)	-6.754 (2.801)
R^2	.38	.44	.41	.53
Adjusted R^2	.27	.35	.28	.43
Standard error of the estimate	20.84	20.84	20.69	19.58
Mean, dependent variable	27.57	52.65	27.57	52.65

Note: Number = 35. White-corrected standard errors are shown in parentheses.

All of these results support the view that social capital reduces poverty rates and improves—or at a minimum does not exacerbate—income inequality. Improving government and civil social capital are not the only ways, or necessarily the best ways, of reducing poverty. But there clearly is no equity-based justification in the data for opposing the strengthening of property and contract rights in developing countries.

Conclusion

Most of the research described here examines “big picture” issues concerning social capital and economic performance. It is useful to understand the country-level relations between various dimensions of governance or civil society on the one hand and economic performance on the other. This body of research is also valuable in illuminating issues deserving further study at less aggregated levels or in more detailed ways.

Most of the chapters in this volume explore relations between social capital and economic welfare at much lower levels of aggregation. By and large, the findings of these micro studies are consistent with those of the macro studies reviewed here.

More refined studies at the macro level are needed. Ethnic heterogeneity, for example, appears to be associated with less efficient policies, less social trust, and slower growth. But observation of many successful heterogeneous societies suggests that important qualifications may hide behind these simple relations. Under what conditions does ethnic heterogeneity fuel conflict and distrust, and under what set of conditions or institutions are heterogeneous societies less conflictual? To resolve questions such as these, more studies like that of Bates (chapter 7 of this volume), are needed.

Other needed refinements of macro studies include identifying and collecting better and more comprehensive data. Each round of the World Values Surveys adds many new countries, improving our knowledge of cross-country differences in levels of trust, group membership, and other measures of civil social capital. Increases in the sophistication of measurement are equally important, however. The nature of groups' activities and goals, for example, and the composition of their membership may be more important for economic welfare than the simple number of group memberships. Some more detailed measures are already being collected in some countries, for use in World Bank household- or village-level studies.

Although measurement issues remain, a consensus has developed on the importance of government social capital for economic performance; a similar consensus is rapidly developing on civil social capital. For this knowledge to have any practical implications for policy, the next logical focus of both macro and micro research should address the fundamental sources of social capital.

Annex. Data Sources for Cross-Country Social Capital Indicators

This annex provides brief descriptions of the most commonly-used country-level indicators of social capital. More detailed information can be found at the internet sites for each source.

Gastil/Freedom House Civil Liberties and Political Freedoms Indexes

Beginning in the early 1970s, Raymond Gastil constructed cross-country indexes of "civil liberties" and "political freedoms" as part of the Comparative Survey of Freedom, published by Freedom House, a nonprofit organization dedicated to the promotion of democracy, political rights, and civil liberties. Since 1990 the indexes have been published without Gastil's participation.

The index assigns countries scores of 1–7, with lower values assigned to countries with greater liberties. (Many users of the indexes have reversed the scale so that larger

number indicate greater freedom.) The survey is unusually inclusive, covering about 170 countries and territories.

The Gastil/Freedom House index assigns values based on an overall assessment of each country in terms of 14 measures of civil liberty and 11 measures of political freedom. (Only one value is assigned to each country based on a collective evaluation of these criteria; numerical values are not assigned for each criterion.) The criteria include such measures as the existence of an independent judiciary, free trade unions and religious institutions, and multiple political parties and the absence of political censorship and military or foreign control. (For a discussion of the methodology used to create the indexes and some of the problems associated with the ratings, see Gastil 1990, Barro 1996, and Burkhart and Lewis-Beck 1994. Also see www.freedomhouse.org.)

International Country Risk Guide (ICRG)

The International Country Risk Guide (ICRG) has been published monthly since 1982. Produced for sale to international investors, the guide is designed to identify political and other risks to overseas investments. Country experts prepare in-depth country reports; editors assign numerical ratings to each country, based on the country reports and other information. Ratings are based on 13 indicators of political risk and 5 measures of financial risk. Most researchers have followed Knack and Keefer (1995) in using an additive index based on five of these variables: law and order tradition, quality of the bureaucracy, corruption in government, risk of expropriation of private investment, and risk of repudiation of contracts by government. (For additional information, see www.prsgroup.com).

Business Environmental Risk Intelligence (BERI)

Business Environmental Risk Intelligence (BERI) has published an operations risk index and subindexes since 1972. Scores for all countries are constructed from surveys of a panel of about 105 experts, including academics, government officials, bankers, and foreign investors, all with extensive international experience. Country ratings are produced by omitting the maximum and minimum values and computing the mean of the remainder. Subindexes cover political continuity, attitude toward foreign investors and profits, degree of nationalization risk, monetary inflation, balance of payments, bureaucratic delays, economic growth, currency convertibility, enforcement of contracts, labor cost/productivity, professional services and contracts, communications and transportation, local management and partners, availability of short-term credit in local currency, and availability of long-term credit in local currency. (For additional information, see www.beri.com.)

Because the BERI ratings go back much farther in time than the ICRG ratings, they are less subject to reverse causation problems in analyses of long-run economic performance. They cover a much smaller number of countries than the ICRG ratings, however (about 50 versus 140 covered by ICRG in 1998). Coverage is determined in part by investor interest (when countries become extremely poor risks, they are dropped from

the sample). The resulting reduction in cross-country variation should make it more difficult to find statistically significant links to economic outcomes using these data.

A second disadvantage of the BERI data is that ratings on bureaucratic delays, nationalization risk, and contract enforceability are intercorrelated at about 0.9. The rate of intercorrelation among the ICRG components is just 0.6. Very high correlations between items suggest that ratings by BERI evaluators may reflect their overall sense of a country's investment environment rather than the individual dimensions of that environment.

Business International

Business International provided numerical ratings on various dimensions of investor risk between 1971 and 1988. The measures and the sample changed substantially in 1980. From 1971 to 1979 Business International rated 57 countries on at least 20 factors, including political stability, probability of nationalization, delays in getting approval, government intervention in business, and quality of infrastructure. From 1980 to 1988 the sample was expanded by about 10 countries, and a different and larger set of indicators became available. These include quality of the legal system and judiciary, bureaucracy and red tape, corruption, political stability, labor stability, terrorism, probability of opposition group takeover, and others.

The Business International data are less useful than the ICRG or BERI data for time-series analyses because each of its two series was published for only about nine years. In contrast, ICRG data are available for 17 years, and BERI data are available for 27 years (and continue to be produced).

Humana's World Human Rights Guide

Charles Humana's World Human Rights Guide (1984, 1986, 1992) rates 90 or more countries on 40 dimensions of human rights. For each dimension, countries are assigned to one of four categories depending on the level of rights. Dimensions rated include freedom to travel or disseminate information, equality for women and ethnic minorities, and various legal and personal rights.

Economic Freedom Indexes

Since 1995 the Heritage Foundation has published an annual index of economic freedom. Ten dimensions of economic freedom are rated on a subjective scale of 1 to 5. Most of these dimensions are related to economic policies, including banking, trade, tax, and monetary policies. Ratings are assigned to more than 100 countries.

A second economic freedom index is produced annually by the Economic Freedom Network, which links dozens of institutes around the world, including the Cato Institute in the United States and the Fraser Institute in Canada. The index is based largely on objective measures, such as government spending, inflation, and tax rates.

Because most of these variables are available over long periods of time, indexes have been constructed for the years 1975–95 (Gwartney, Lawson, and Block 1996).

Freedom House sponsored one economic freedom index in the early 1980s (Wright 1982) and another in the 1990s (Messick 1996). Both are subjective indexes, based on measures such as freedom to have and control property, freedom of association, freedom of movement, and freedom of information.

A fourth economic freedom index is that of Scully (1992). He constructs an index of “economic liberty” from 15 indicators from Humana (1986), Wright (1982), Gastil, and other sources.

Competitiveness Indexes

Two organizations produce cross-country numerical ratings of economic competitiveness. The World Economic Forum (www.weforum.org), with assistance from the Harvard Institute for International Development, issues an annual *Global Competitiveness Report*. Based on standard economic data and a survey of about 3,000 business executives, it evaluates 155 separate criteria in 53 countries. The survey includes items on bribery and corruption, tax evasion, and the reliability of the judicial system. Although the report has been issued annually since 1980, the current methodology dates only to 1996.

The Institute for Management Development (www.imd.ch) produces a similar competitiveness index for its annual *World Competitiveness Yearbook*. Ratings are based on a survey of several thousand businesspeople around the world. For the 1996 yearbook 3,162 businesspeople responded to a 72-question survey sent to 21,000 national and expatriate businesspeople. Respondents include both local and international companies, reportedly representing a cross-section of the economy in each country. The *World Competitiveness Yearbook* evaluates 46 countries, including all OECD members and 18 other countries chosen on the basis of their economic importance and the availability of data. Hard data are used to supplement the survey, with about 260 total criteria rated. The survey queries respondents about relations between managers and employees, employees’ identification with company objectives, managers’ sense of social responsibility, confidence in the administration of justice, security of persons and property, government transparency, the adequacy of the legal framework and bureaucracy in the public sector, protection of intellectual property rights, the frequency of tax evasion, and the occurrence of improper practices, such as bribing or corruption.

Transparency International’s Corruption Perceptions Index

Transparency International (www.transparency.org) constructs a “corruption perceptions index” based on ratings by ICRG; the *World Competitiveness Yearbook*; the *Global Competitiveness Report*; Brunetti, Kisunko, and Weder’s (1997) credibility of rules index; World Bank-sponsored surveys; and other sources. Each source is weighted equally, on a scale of 0–10.

The index is produced annually, with country coverage varying as available data sources change. Countries are rated only if data are available from at least 3 of the 12 sources used. Eighty-five countries were rated in 1998. Like the competitiveness ratings, Transparency International's index postdates the cross-country data on economic performance, limiting their usefulness in studying the determinants of investment and growth.

World Values Surveys

The World Values Survey, organized by Ronald Inglehart with collaborators from around the world, have been conducted in 68 countries. The first round of surveys, conducted in 1981, included 24 countries, most of them advanced industrial economies. A second round, conducted in 1990–91, added 21 new countries, most of them formerly socialist economies and middle-income developing countries. A third round, conducted in 1995–96, covered 42 countries, including more than 20 not represented in either of the first two rounds. About half of the countries added in this round were formerly socialist economies, the other half developing countries. A planned fourth round will add several developing countries. (See <http://wvs.isr.umich.edu/index.html> for more detailed information.)

References

- Alesina, Alberto, and Allen Drazen. 1991. "Why Are Stabilizations Delayed?" *American Economic Review* 81 (5): 1170–88.
- Alesina, Alberto, and Roberto Perotti. 1996. "Income Distribution, Political Instability, and Investment." *European Economic Review* 40 (6): 1203–28.
- Alesina, Alberto, and Dani Rodrik. 1994. "Distributive Politics and Economic Growth." *Quarterly Journal of Economics* 109 (2): 465–90.
- Alesina, Alberto, Reza Baqir, and William Easterly. 1999. "Public Goods and Ethnic Divisions." *Quarterly Journal of Economics*, 114 (4): 1243–84.
- Alesina, Alberto, Sule Ozler, Nouriel Roubini, and Phillip Swagel. 1996. "Political Instability and Economic Growth." *Journal of Economic Growth* 1 (2): 189–211.
- Almond, Gabriel A., and Sidney Verba. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Newbury Park, Calif.: Sage.
- Banks, Arthur S. 1993. "Cross-National Time-Series Data Archive." State University of New York at Binghamton, Department of Political Science.
- Barro, Robert. 1991. "Economic Growth in a Cross-Section of Countries." *Quarterly Journal of Economics* 106 (2): 407–33.
- . 1996. "Democracy and Growth." *Journal of Economic Growth* 1 (1): 1–27.
- Barro, Robert, and Jong-wha Lee. 1993. "International Comparisons of Educational Attainment." *Journal of Monetary Economics* 32 (3): 363–94.
- Berg, Andrew, and Jeffrey Sachs. 1988. "The Debt Crisis: Structural Explanations of Country Performance." *Journal of Development Economics* 29 (3): 271–306.
- Bergsten, Gordon S. 1985. "On the Role of Social Norms in a Market Economy." *Public Choice* 45 (2): 113–37.
- Bernstein, Lisa. 1992. "Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry." *Journal of Legal Studies* 21 (1): 115–57.
- Bilson, John F. O. 1982. "Civil Liberty: An Econometric Investigation." *Kyklos* 35 (1): 94–114.
- Borner, Silvio, Aymo Brunetti, and Beatrice Weder. 1995. *Political Credibility and Economic Development*. London: Macmillan.

- Brunetti, Aymo, Gregory Kisunko, and Beatrice Weder. 1997. "Credibility of Rules and Economic Growth." Policy Research Working Paper 1760. World Bank, Office of the Chief Economist and Senior Vice President, Development Economics, Washington, D.C.
- Bruno, Michael, Martin Ravallion, and Lyn Squire. 1998. "Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues." In V. Tanzi and K. Chu, eds., *Income Distribution and High-Quality Growth*. Cambridge, Mass.: MIT Press.
- Burkhart, Ross, and Michael Lewis-Beck. 1994. "Comparative Democracy: The Economic Development Thesis." *American Political Science Review* 88 (4): 903–10.
- Chong, Alberto, and Cesar Calderon. 2000. "Causality and Feedback Between Institutional Measures and Economic Growth." *Economics and Politics*, 12 (1): 69–81.
- Clague, Christopher, Philip Keefer, Stephen Knack, and Mancur Olson. 1999. "Contract-Intensive Money." *Journal of Economic Growth* 4(2): 185–211.
- Collier, Paul. 1998a. "Social Capital and Poverty." World Bank, Development Research Group, Washington, D.C.
- . 1998b. "The Political Economy of Ethnicity." Centre for the Study of African Economies Working Paper Series, WPS/98-8.
- Coplin, William, Michael K. O'Leary, and Tom Sealy. 1991. *Political Risk Services: A Business Guide to Political Risk for International Decisions*. Syracuse, N.Y.: Political Risk Services, Inc.
- Dawson, John W. 1998. "Institutions, Investment, and Growth: New Cross-Country and Panel Data Evidence." *Economic Inquiry* 36 (4): 603–19.
- de Soto, Hernando. 1989. *The Other Path: The Invisible Revolution in the Third World*. New York: Harper and Row.
- Deininger, Klaus, and Lyn Squire. 1996. "A New Data Set: Measuring Income Inequality." *World Bank Economic Review* 10 (3): 565–92.
- Easterly, William, and Ross Levine. 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics* 112 (4): 1203–50.
- Fukuyama, Francis. 1995. *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.

- Gastil, Raymond D. 1990. "The Comparative Survey of Freedom: Experiences and Suggestions." *Studies in Comparative International Development* 25 (1): 25–50.
- Granato, Jim, Ronald Inglehart, and David Leblang. 1996a. "Cultural Values, Stable Democracy, and Economic Development: A Reply." *American Journal of Political Science* 40 (3): 680–96.
- . 1996b. "The Effect of Cultural Values on Economic Development: Theory, Hypotheses, and Some Empirical Tests." *American Journal of Political Science* 40 (3): 607–31.
- Greif, Avner. 1993. "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Trader's Coalition." *American Economic Review* 83 (3): 525–48.
- . 1994. "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies." *Journal of Political Economy* 102 (5): 912–50.
- Grier, Kevin B., and Gordon Tullock. 1989. "An Empirical Analysis of Cross-National Economic Growth, 1951–80." *Journal of Monetary Economics* 24 (2): 259–76.
- Grootaert, Christian. 1999. "Social Capital, Household Welfare and Poverty in Indonesia." World Bank Policy Research Working Paper No. 2148. Washington, D.C.
- Gupta, D. K. 1990. *The Economics of Political Violence: The Effect of Political Instability on Economic Growth*. New York: Praeger.
- Gwartney, James, Robert Lawson, and Walter Block. 1996. *Economic Freedom of the World: 1975–95*. Vancouver, British Columbia.: Fraser Institute.
- Helliwell, John. 1994. "Empirical Linkages Between Democracy and Economic Growth." *British Journal of Political Science* 24 (2): 22–48.
- . 1996. "Economic Growth and Social Capital in Asia." NBER Working Paper 5470. National Bureau of Economic Research, Cambridge, Mass.
- Helliwell, John, and Robert Putnam. 1995. "Economic Growth and Social Capital in Italy." *Eastern Economic Journal* 21 (3): 295–307.
- Horowitz, Donald L. 1985. *Ethnic Groups in Conflict*. Berkeley, Calif.: University of California Press.
- Humana, Charles. 1984. *World Human Rights Guide*. New York: PICA Press.
- . 1986. *World Human Rights Guide*. 2nd ed. New York: Facts on File Publications.

- . 1992. *World Human Rights Guide*. 3rd ed. New York: Oxford University Press.
- Inglehart, Ronald. 1990. *Culture Shift in Advanced Industrial Society*. Princeton, N.J.: Princeton University Press.
- . 1994. *Codebook for World Values Surveys*. Ann Arbor, Mich.: Institute for Social Research.
- Isham, Jonathan, Daniel Kaufmann, and Lant Pritchett. 1997. "Civil Liberties, Democracy, and the Performance of Government Projects." *World Bank Economic Review* 11 (2): 219–42.
- Jackman, Robert, and Ross A. Miller. 1996. "A Renaissance of Political Culture." *American Journal of Political Science* 40(3), 632–59.
- Kawachi, Ichiro, Bruce P. Kennedy, Kimberly Lochner, and Deborah Prothrow-Stith. 1997. "Social Capital, Income Inequality, and Mortality." *American Journal of Public Health* 87 (9): 1491–98.
- Keefer, Philip, and Stephen Knack. 1995. "Polarization, Property Rights and the Links between Inequality and Growth." IRIS Center Working Paper 153. Center for Institutional Reform and the Informal Sector University of Maryland, College Park.
- . 1997. "Why Don't Poor Countries Catch Up? A Cross-Country Test of an Institutional Explanation." *Economic Inquiry* 35 (3): 590–602.
- Knack, Stephen. 1996. "Institutions and the Convergence Hypothesis: The Cross-National Evidence." *Public Choice* 87 (June): 207–28.
- Knack, Stephen, and Philip Keefer. 1995. "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures." *Economics and Politics* 7 (November): 207–27.
- . 1997. "Does Inequality Harm Growth Only in Democracies?" *American Journal of Political Science* 41 (1): 323–32.
- . 1997. "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation." *Quarterly Journal of Economics* 112 (4): 1,251–88.
- Kormendi, Roger C., and Philip G. Meguire. 1985. "Macroeconomic Determinants of Growth." *Journal of Monetary Economics* 16 (1): 141–63.
- Lane, Philip R., and Aaron Tornell. 1996. "Power, Growth, and the Voracity Effect." *Journal of Economic Growth* 1 (2): 213–41.

- LaPorta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. 1997. "Trust in Large Organizations." *American Economic Review Papers and Proceedings* 87 (2): 333–8.
- Levine, Ross, and David Renelt. 1992. "A Sensitivity Analysis of Cross-Country Growth Regressions." *American Economic Review* 82 (4): 942–63.
- Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy." *American Political Science Review* 53 (1): 69–105.
- Londregan, John B., and Keith T. Poole. 1990. "Poverty, the Coup Trap, and the Seizure of Executive Power." *World Politics* 42 (2): 151–83.
- . 1992. "The Seizure of Executive Power and Economic Growth: Some Additional Evidence." In Alex Cukierman, Zvi Hercowitz, and Leonardo Leiderman, eds., *Political Economy, Growth and Business Cycles*. Cambridge, Mass.: MIT Press.
- Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics* 110 (3): 681–712.
- Muller, Edward N., and Erich Weede. 1990. "Cross-National Variation in Political Violence." *Journal of Conflict Resolution* 34 (4): 624–51.
- Narayan, Deepa, and Lant Pritchett. 1999. "Cents and Sociability: Household Income and Social Capital in Rural Tanzania." *Economic Development and Cultural Change* 47 (4): 871–97.
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- Olson, Mancur. 1963. "Rapid Growth as a Destabilizing Force." *Journal of Economic History* 23 (4): 529–52.
- . 1982. *The Rise and Decline of Nations*. New Haven, Conn.: Yale University Press.
- . 1994. "Who Gains From Policies that Increase Poverty?" IRIS Center Working Paper 137. Center for Institutional Reform and the Informal Sector, University of Maryland, College Park.
- Przeworski, Adam, and Fernando Limongi. 1993. "Political Regimes and Economic Growth." *Journal of Economic Perspectives* 7 (3): 51–69.

- Putnam, Robert D, with Robert Leonardi, and Raffaella Nanetti. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, N.J.: Princeton University Press.
- Rodrik, Dani. 1999. "Where Did All the Growth Go? External Shocks, Social Conflict, and Growth Collapses." *Journal of Economic Growth* 4 (4): 385-412.
- Scully, Gerald. 1988. "The Institutional Framework and Economic Development." *Journal of Political Economy* 96 (3): 652-62.
- . 1992. *Constitutional Environments and Economic Growth*. Princeton, N.J.: Princeton University Press.
- Spindler, Zane. 1991. "Liberty and Development: A Further Empirical Perspective." *Public Choice* 69 (2): 197-210.
- Squire, Lyn. 1993. "Fighting Poverty." *American Economic Review Papers and Proceedings* 83 (2): 377-82.
- Summers, Robert, and Alan Heston. 1991. "The Penn World Tables. Mark V: An Extended Set of International Comparisons, 1950-88." *Quarterly Journal of Economics* 106 (2): 327-68.
- Swank, Duane. 1996. "Culture, Institutions, and Economic Growth." *American Journal of Political Science* 40 (3): 660-79.
- Varshney, Ashutosh. 1998. "Ethnic Conflict and the Structure of Civic Life." Paper presented at the annual meetings of the American Political Science Association, September 3-6, Boston, Mass.
- World Bank. 1997. *World Development Report: The State in a Changing World*. New York: Oxford University Press.
- Wright, Lindsay M. 1982. "A Comparative Survey of Economic Freedoms." In Raymond Gastil, ed., *Freedom in the World: Political Rights and Civil Liberties, 1982*. New York: Freedom House.
- Zak, Paul J., and Stephen Knack. 2001. "Trust and Growth." *Economic Journal* (forthcoming).